PROPOSITION 13
URBAN WATER CONSERVATION PROGRAM

PROJECT PROPOSAL

Multifamily Ultra-Low Flush Toilet (ULFT) and Residential High Efficiency Clothes Washer (HECW) Rebate Program

March 1, 2002

Contact: Dr. Randal Orton
(818) 251-2145
rorton@lvmwd.dst.ca.us

ApplicationNum	123	**Specify from cho**	
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Principle Applic	Las Virgenes Municiple Water District	**Does Proposal in**	☐
Project Title	Multifamily ULFT and Residential HECW R		
First Name-Aut	Randal		
Last Name (AA)	Orton		
Title	PhD Conserv. Admin		
Street Address	4232 Las Virgenes Rd.		
PO Box			
City	Calabasas		
State	Ca		
Zip Code	91302		
Telephone Num	(818) 251-21		
Fax Number (Inc	(818) 251-2		
E-mail Address	rorton@lvmwd.dst.ca.us		
First Name-Con			
Last Name-CP			
Contact-Title			
Contact-Street			
Contact-PO Box			
Contact-City			
Contact-State			
Contact-Zip Cod			
Contact-Phone			
Contact-Fax Nu			
Contact-E-Mail			
Funds Requeste	$145,000.00		
Applicant Funds	$100,000.00		
Total Project Co	$245,000.00		
Estimated Total	$387,000.00		
Percentage of Be	48%		
Percentage of Be	52%		
Estimated Annu	29.99		
Estimated Total	299.9		

Over _____ Nu	10
Estimated Benef	29.99 AF wastewater out of Malibu Creek(see environ. Benefits discussion in text)
Duration of Proj	10/02-10/04
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Project Focus	b) Urban
Project Type	a) Implementation of Ur
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PROJECT SUMMARY

This proposal seeks $145,000 in Prop. 13 co-funding to augment existing rebates for ULFT and HECW retrofits. The ULFT element is targeted specifically to multifamily residences that have not yet participated in the current rebate program due to installation costs and lack of financial incentive. The HEWC element is intended to increase the HEWC rebate from $100 to $300, which is necessary to accelerate HEWC retrofits in this service area, which has an arid climate, no local water resources, and is 100% dependent on Bay-Delta water. The project is being launched in cooperation with 3 local cities and the Malibu Creek Watershed Council. The city partners will share in the public outreach effort to advertise the availability of ULFT/HEWC rebates throughout the entire 80,000 resident service area. In addition to the Bay-Delta and local water conservation benefits, the project will also help restore native flows in Malibu Creek, which is a priority action item for both the local watershed council and the Santa Monica Bay Restoration Project. The applicant has long experience conducting plumbing retrofit programs identical in their administrative requirements to this project. The project is straightforward and will yield verifiable and quantified water savings. The project's local benefit-to-cost ratio is 3.5.

A. Scope of Work: Relevance and Importance

1. Nature, scope and objectives

This project will provide Ultra-Low Flush Toilet (ULFT) and High Efficiency Clothes Washer (HECW) retrofits to multifamily residences (ULFTs) and single- and multifamily residences (HECWs) in the cities of Agoura Hills, Calabasas, Hidden Hills, Westlake Village and unincorporated areas within the service area of the Las Virgenes Municipal Water District. Its scope provides for 500 ULFT and HECW retrofits over a two year period.

The project objectives are twofold. The ULFT component is specifically targeted to multifamily residences (MFRs), which have not participated in the district's existing ULFT rebate program to any appreciable degree. Research by the district has shown that the barrier to their participation is financial; the existing $60 rebate does not allow them to recover installation costs, and their ability to pass the consequently higher water costs onto their rental lessees effectively precludes their willingness to participate in the district's existing program. Interviews with several MFR owners indicates that a rebate of $150 per retrofit would be sufficient incentive to participate, and Prop. 13 funds are sought to augment the existing $60 rebate accordingly.

The HECW component is intended to accelerate the replacement of existing low efficiency washers by offering "first come, first served" rebates of $300 per HECW. The current rebate of $100 likely does not provide sufficient incentive to retrofit an existing washer, so this project seeks Prop. 13 funds to augment this

rebate with an additional $200 per retrofit. We believe this effort will accelerate HECW acceptance and installation rates beyond the 500 machines provided for in the budget, due to advertising promoting the benefits of HECW generally throughout the participating cities.

2. Statement of Critical local, regional, Bay-Delta, State or federal water issues

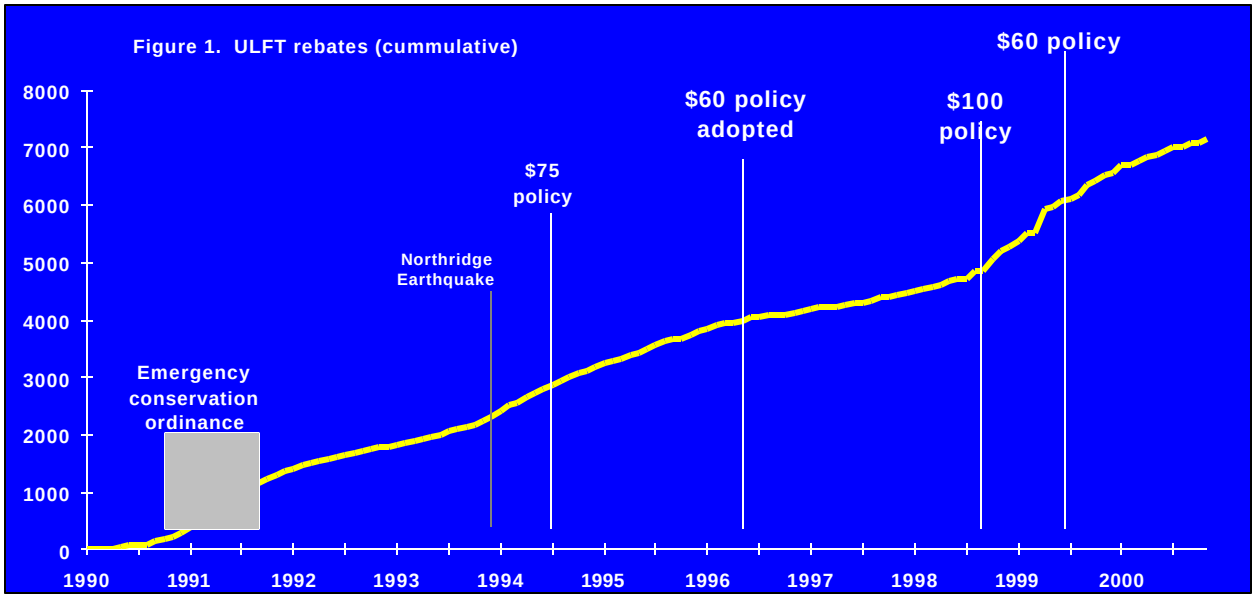
Critical local issues are two-fold. First, this particular watershed is quite arid and has no local water resources, and all water is imported from the Bay-Delta. For this reason, water conservation efforts such as this project are very important, more so than in other areas with multiple water sources and more favorable climates. Second, the importation of water, coupled with no use of local waters, has resulted in steadily increasing background flows in Malibu Creek, resulting in environmental and public health impacts in Malibu Lagoon. These impacts are linked to the more-frequent breaching of Malibu Lagoon caused by higher than normal flows in Malibu Creek. While this project, alone, will not completely mitigate this issue, it is one of several efforts that, collectively, will. Every effort is important, as no single solution will solve this problem. This project is fully consistent with local watershed management plans, and enjoys the support of the Malibu Creek Watershed Executive Advisory Council and its members, including Heal The Bay, Malibu Surfriders, National Audubon and local cities.

Regional, State, Federal and Bay-Delta issues addressed by this project relate to the area's complete dependence on Bay-Delta water delivered via the State Water Project. This means that all of the water saved by every ULFT and HECW installed is SWP water, in contrast to cities like Los Angeles, where the water savings are spread across several sources (e.g. LA Aqueduct, local groundwater basins), diluting the benefit to the Bay-Delta. In short, a dollar spent on conservation in our service area has proportionately more "bang for the buck" for the Bay-Delta in comparison with other applicants.

B. Scope of work

1. Methods and Procedures

The project will use the district's existing administrative procedures for providing ULFT rebates to local residents. This is an efficient, mature program with very low overhead and a 10+ year record of administering conservation rebates. A comprehensive database of past rebates is the basis for our belief that increasing the ULFT rebate and advertising the increase will accelerate the ULFT retrofit rate (Fig. 1).



2. Task List and Schedule

	Task	Schedule
1	Secure Supplemental Funding (Prop. 13) – DWR recommendations	4/02 – 10/02
2	Draft Letter Agreement with MWD for 500 ULFT and HECW retrofits	4/02 – 7/02
3	Prepare Public Outreach materials in coordination with local cities	4/02 – 6/02
4	Advertise Rebate Availability	9/02 – 12/02
5	Begin accepting and processing rebate applications	10/02
6	Installation verification (10% onsite)	10/02 – 10/04

Note: All of the administrative procedures are already in place for Tasks 2-6; they do not have to be developed de novo, which is why the task list may appear unusually abbreviated in comparison with other applicants.

3. Monitoring and Assessment

Monitoring and assessment procedures consist of database tracking of all rebates to residents, including application surveys of information relevant to water use and conservation programs, including family size, number of bathrooms, pre-existing retrofits, etc. Installation is also monitored via on-site verification surveys and cross-checking of the existing database to ensure that installed ULFTs and HECWs are replacing less efficient devices. Additionally, a new GIS and Billing

System will enable rapid assessments of post-project water use by participating residents, and this information will be used to further refine conservation efforts by both the district and MWD.

Environmental benefits will also be tracked via stream gaging on Malibu Creek and water level instrumentation in Malibu Lagoon. While natural hydrological variability will tend to mask immediate creek flow reductions attributable to this project, monitoring of the long-term mean flows should provide feedback on this project and other projects intended to restore native creek flows.

4. Preliminary Plans and Specifications and Certification Statements

Not applicable. The project entails no construction.

C. QUALIFICATIONS OF THE APPLICANTS AND COOPERATORS

As discussed above, the project applicant has long and successful experience with plumbing retrofit rebate programs, and has refined the necessary administrative procedures over time resulting in an efficient program for promoting and distributing water conservation rebates. The proposed project will require no significant change to these procedures. The 500 unit scope of the project falls well within previous year's processing volume (fig. 1).

The project manager, Dr. Randal Orton, is Resource Conservation Administrator for the project applicant, Las Virgenes MWD. He has seven year's experience managing water conservation program staff at the water district. His resume is attached per the RFP instructions.

D. BENEFITS AND COSTS

1. Budget Breakdown and Justification

Table 1 Budget

COST CATEGORY	Project Cost	Request
Land Purchase/Easement	$0	$0
Planning/Design/Engineering	$0	$0
Materials/Installation – 500 ULFT retrofits	$75,000	$45,000
Structures	$0	$0
Equipment Purchases / Rentals	$0	$0
Environmental Mitigation / Enhancement	$0	$0
Construction/Administration/Overhead		
Customer Service Representative – 40 hrs @ 19.35/hr x 1.15 (benefit rate)	$890	$0
Resource Conservation Specialist -- 40 hrs @23.85/hr x 1.15 (benefits)	$1097	$0
Resource Conservation Administrator – 8 hrs @40.20/hr x 1.25 (benefits)	$403	$0
Public Affairs Associate 22 hrs @31.42/hr x 1.15 (benefits)	$795	$0
Project/Legal/License Fees	$0	$0
Contingency	$0	$0
Other		
HECW rebates – 500 @ $300 each	$150,000	$100,000
Advertising and public outreach	$20,000	$0
TOTAL COSTS	$248,185	$145,000

Cost Justification

Direct labor -- [NOTE: THESE COSTS BORNE BY APPLICANT]. Day to day administration of the ULFT and HECW rebate programs, including application processing, record keeping, and installation verification inspections.

Other Direct Costs -- ULFT installation rebates provide for purchase and installation of 1.6 L toilets in qualifying multifamily residences. HECW rebates provide up to $300 towards the purchase of qualifying High Efficiency Clothes Washers (HECWs).

2. Cost Sharing -- The applicant and its partners are providing both cash and services as follows:

Table 2. Cost Sharing

Cost Category	Partner / Source	Amount	Fund Status
Direct Labor	LVMWD (applicant)	$3,185	Budgeted
Direct Labor and Materials	Local Cities	$20,000	Approvedl[1]
ULFT rebates	MWD of So. California	$30,000	Tentative[2]
HECW rebates	MWD of So. California	$50,000	Tentative[3]
Cost Share Total		**$110,685**	

3. Benefit Summary and Breakdown

a. Quantified Benefits - $387,000. The quantified benefits to the applicant of this project are straightforward and quantified:

- HECW retrofits yield water savings of 0.226 acre-feet per HECW (CUWCC memo dated 5/1/00 re savings estimates from THELMA and BERN, KS studies, and assume a 14 year lifespan). For 500 HECW retrofits this equates to a total water savings of 113 AF
- Multifamily ULFT retrofits yield water savings of 0.374 acre-feet per retrofit over the estimated 10 year lifespan of the ULFT (CUWCC estimate). For 500 ULFT retrofits this equates to a total savings of 186.9 AF.
- Collectively, these water savings equate to approximately $185,000 in avoided purchased water costs (table 3, below)

Quantified benefits to the project's partners (local cities) consist of reduced water costs to those citizens who participate in this retrofit program. Using the total water savings of 299.9 AF and taking the mid-point pricing for retail water (assuming average elevation zone and tiers) yields a collective economic benefit to these cities in reduced water bills. Using the schedule in Table 3, the present value of this savings would be $202,000. Summing the applicant and partner benefits yields a total quantified benefit of $387,000.

[1] Local cites (Westlake Village, Calabasas, Agoura Hills) have indicated they will provide a letter of commitment to the cost sharing identified in Table 2.

[2] While technically this commitment is tentative, MWD has provided $60 per UFLT retrofit for over 6 years running, and they have indicated they plan to continue this program (J. Weideman, pers. comm.)

[3] A letter agreement between LVMWD and MWD is currently being processed that will provide up to $100 in reimbursement for each HECW retrofit in our service area. While the status of this program is uncertain beyond 6/30/02, the agreement provides for continuation of the program beyond this date if funds are available.

b. Unquantified Benefits. Other benefits, more difficult to quantify include:

- Drought protection**.** Because there are no local water resources and because the area is quite arid, the communities participating in this project are particularly susceptible to drought impacts. This project will decrease our vulnerability to drought in direct proportion to the water savings listed above by reducing demand.

- Watershed protection. Because all drinking water is imported and local water resources are not used, background flows in Malibu Creek have steadily risen in recent decades, resulting in more frequent breaches of Malibu Lagoon, which in turn releases poor quality lagoon water onto Surfrider Beach, a premier surfing location. For this reason, the goal of restoring native flows in Malibu Creek is a priority action item in the Malibu Creek Management Area Plan (WMAP). This project will further this goal by reducing the quantity of water imported into the watershed. That is why this project has the full support of the Malibu Creek Executive Advisory Council and its affiliated stakeholders, such as Heal The Bay, Malibu Chapter Surfriders, Audubon Society, etc.

Relationship of Benefits to CalFed goals

- Because 100% of the water delivered by the applicant, Las Virgenes Municipal Water District is imported from the State Water Project, the benefits identified above transfer directly and entirely to the CalFed source waters. This is in contrast to ULFT/HECW programs in other Los Angeles County cities, most of which derive their water from multiple sources, which means the above benefits would be discounted for these other agencies in direct proportion to their reliance on other sources.

4. Assessment of Costs and Benefits

Table 3 below quantifies project benefits and costs in terms of present value using the 6% discount rate specified in the RFP. Benefits are based on water savings identified in section 3(a), with savings distributed evenly over 10 years for ULFTs and 14 years for HECWs. The value of an acre-foot of avoided water demand is based on $431/AF, which is the current wholesale purchase price for this area from the MWD of Southern California (MWD). MWD is currently revising their rate structure, but has not yet identified future water rates, so this $431/AF value is used without adjustment in the analysis. The analysis assumes that 100% of the project costs will be incurred within the first two years of the award.

Demonstration of Local Cost Effectiveness: The benefits to costs ratio identified in Table 3 is greater than one (3.75).

E. OUTREACH, COMMUNITY INVOLVEMENT AND ACCEPTANCE

This project is being coordinated with local cities (Westlake Village, Agoura Hills, Calabasas) through Ms. Roxanne Hughs (818 / 878-4242 ext 293). Public outreach will use existing communications venues in these cities (HOA newsletters, bill inserts, local newspaper ads, press releases) to advertise the availability of ULFT/HECW rebates. The applicant's Resource Conservation and Public Outreach department will coordinate the outreach partnership effort and provide line art and copy. Community acceptance is proven based on community response to previous ULFT rebate programs. Better acceptance of ULFT retrofits by the owners of multifamily residences is a specific goal of the enhanced ULFT retrofit rebate that this grant will fund, as discussed in the project description. The project enjoys the support of the Watershed Executive Advisory Council, an umbrella group that includes most public agencies in the watershed in addition to local environmental groups and interested citizens. We believe the project will advance conservation education and awareness throughout the watershed through this organization.

Table 3. Present Value Calculation - Benefits

	Applicant		Local Partners		CalFed	
	Benefit	Cost	Benefit	Cost	Benefit	Cost
Year						
1	$10,624	$1,593	$15,737	$50,000	no estimate	145,000
2	$11,262	$1,593	$16,681	$50,000		
3	$11,937		$16,681			
4	$12,654		$16,681			
5	$13,413		$16,681			
6	$14,218		$16,681			
7	$15,071		$16,681			
8	$15,975		$16,681			
9	$16,933		$16,681			
10	$17,949		$16,681			
11	$10,304		$9,034			
12	$10,923		$9,034			
13	$11,578		$9,034			
14	$12,273		$9,034			
Totals	$185,112	$3,185	$201,999	$100,000	$0	$145,000
B/C ratio:	58.12		2.02		no estimate	
Local B/C: 3.75						

Randal D. Orton, Ph.D. , D.Env.

BORN July 25, 1956. Glendale, California

LANGUAGES English, German, Japanese

EDUCATION Ph.D. 1989. Biology. University of California, Los Angeles.
D. Env. 1992. Environmental Science & Engineering, UCLA
M.A. 1983. Marine Biology. San Francisco State University
B.A. 1979. Biology. UCLA

EMPLOYMENT 1994 – present. Resource Conservation Administrator, Las Virgenes Municipal Water District, Calabasas, California. Water Conservation, Water Recycling and Watershed Manager. Responsible for new permitting (NPDES) for wastewater facilities, oversight of regulatory monitoring programs, Cross connection control unit, Supervise recycled water unit, watershed management

1988 – 1994. Fisheries and water resources consultant, Los Angeles Dept. Water and Power, Los Angeles, California

1983 – 1988. Teaching Fellow, UCLA Life Sciences Department

PROFESSIONAL AND PUBLIC SERVICE

CUWCC Strategic Plan Steering Committee
ACWA Water Quality and Clean Water Act Subcommittee (1996-7)
Santa Monica Bay Restoration Project (SMBRP) Steering Committee
SMBRP Technical Advisory Committee (TAC)
State Water Resources Control Board Task Force, Inland Surface Water Plan (ISWP)
Malibu Creek Watershed Executive Advisory Council
Malibu Lagoon Task Force (State Parks)
National Water Research Institute (NWRI), Stormwater Harvesting Workshop
State panel for endangered plants.
Peer Review for American Society of Ichthyologists and Herpetologists.
Water Environment Federation (Aquatic Ecology Committee)

GRANTS AND HONORS

Constructed Wetlands Grant, Los Angeles County, ($72,000)
US Bureau of Reclamation Conservation Award ($136,000)
National Science Foundation, Systematic Biology Grant ($8,700)

Invited scientist, National Zoo Conservation Genetics workshop, 1997
Invited Scientist, Kermadec Island Faunal Survey, 1992.
SMBRP Public Education and Involvement Grants Review Panel.
Sino-Japanese Language Scholarship, USC, 1974
Southern Calif. Academy of Sciences, Best Paper Biology 1988 (Eric Durhem Award)
Lasiewski Award (Graduate Research), UCLA 1988
Sigma Xi, 1983
Dean's List, UC San Diego 1975

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Association for the Advancement of Science.
American Society of Ichthyologists and Herpetologists
American Water Works Association
Sigma Xi
Southern California Academy of Sciences
Southern California Alliance of Publicly Owned Treatment Works (SCAP) Water Issues Committee
Water Environment Federation (Aquatic Ecology Committee)

PROFESSIONAL CERTIFICATES AND LICENSES

Recent Advances in Conservation Genetics (Short Course). National Zoo NOAHS program. 1997. Dr. Stephen O'Brien, Fredericksburg, Virginia. Certificate.

Water Environment Federation NPDES Permit Negotiation (Short Course), 1995. San Francisco. Certificate

Molecular Detection of Viruses in Environmental Samples (Short Course). Certificate. University College Galway, Dr. Richard Powell. 1994.

Hazardous Materials First Responder Certification. (OR138392) 1999.

Using the Computer Based Physical Habitat Simulation Model (PHABSIM). (IF310). Utah State University. Course conducted by Dr. Thomas Hardy for the US Fish & Wildlife Service

Designing Instream Flow Studies using the Instream Flow Incremental Methodology (IFIM). IBM Corporate Training Center. Course conducted by Mr. Ken Bovee and Mr. Jim Hendrickson for the US Fish & Wildlife Service, Reston, Virginia, Dec. 1988.

Licensed scuba instructor. National Association of Underwater Instructors (NAUI #7620, ITC 1984, UCLA; Dr. Glen Egstrom, instructor).

Registered rescue diver (NAUI SP12141).

Aerial photography,photointerpretation, and remote sensing for natural resource managers. Certificate. University of California at Santa Barbara, March 1988.

University of California research diver (100' certified depth) since 1975. First issued at UC San Diego; Dr. Bert Kobayashi, instructor.

PUBLICATIONS AND PRESENTATIONS

Orton, R. D. 1996. Protecting Effluent Dependent Wildlife. L.A. Water ReNews 7:1.

Orton, R. D. and D. Crabtree. 1994. Evolutionary Convergence in Stomach and Tooth Morphology Between Parrotfishes (Scaridae), Surgeonfishes (Acanthuridae) and Nibblers (Girellidae) from Easter Island and the Kermadec Islands. American Society of Ichthyologists and Herpetologists, Los Angeles, California.

Orton, R. D. 1993. Inventing the Public Trust Doctrine: California Water Law and the Mono Lake controversy. California State University, San Bernardino, California.

Orton, R. D. 1990. Response of marine temperate water shorefishes to isotherm drift. American Meteorological Society, Anaheim, California.

Orton, R. D. 1990. The evolution of herbivory in fishes of the family Girellidae (Acanthopterygii: Perciformes). California State University, Fullerton, California.

Orton, R. D. 1990. A general theory for the functional significance of bars, stripes, spots, and ocelli in reptiles and fishes. Society for the study of Ecology and Evolutionary Ethology of Fishes, Flagstaff, Arizona.

Orton, R. D. 1990. One black sheep: The evolution of carnivory in fishes of the family Girellidae (Acanthopterygii: Perciformes). Western Society of Naturalists, Monterey, California.

Orton, R. D. 1989. Heterochrony and polymorphism in the evolution of dental morphology in the Girellidae (Acanthopterygii: Perciformes). American Society of Ichthyologists and Herpetologists, San Francisco, California.

Orton, R. D. 1988. The price of planktonic dispersal: Evidence for natural selection in post-larval *Girella nigricans*. Symposium on marine fish recruitment, Southern Academy of Sciences, Northridge, California.

Orton, R. D. 1988. Trophic constraints on anti- tropical distributions in marine herbivorous fishes. Southern California Academy of Sciences, Northridge, California.

Orton, R. D. 1988. Reconciling high gene flow and geographic differentiation in *Girella nigricans*. The American Society of Ichthyologists and Herpetologists, Ann Arbor, Michigan.

Orton, R. D., H. Hess and L. W. Wright. 1987. Dorso-lateral spot polymorphism in *Girella nigricans*: Geographic and inte-size class variation. Copeia 1987:198-204.

Orton, R. D. 1987. Island versus mainland fishes: There's a difference. Some suggestions for the management of California fishes. Third Annual Symposium on the

biology of the Channel Islands,Santa Barbara, California.

Orton, R. D. 1987. A general theory for the functional significance of bars, stripes, spots, and ocelli in reptiles and fishes. Southern Academy of Sciences, Los Angeles, California, and the American Society of Ichthyologists and Herpetologists, Albany, New York.

Orton, R. D. 1986. Principal components analysis: More than an ordination technique? A PCA tour of biological structure in a morphological database of Kyphosid fishes. American Society of Ichthyologists and Herpetologists, Vancouver, British Columbia

Orton, R. D. 1984. Marine resources: Conservation and management roles for the diving scientist. American Association of Underwater Scientists, La Jolla, California.

Orton, R. D. and D. G. Buth. 1984. Minimal genetic differentiation between *Girella nigricans* and *G. simplicidens* (Perciformes: Kyphosidae). Isozyme Bull. 17:66.

Buth, D. G., C. B. Crabtree, R. D. Orton and W. J. Rainboth. 1984. Genetic differentiation between the freshwater suspecies of *Gasterosteus aculeatus* in southern California.. Biochem. Syst. Ecol. 12:423-432.